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HUGH H. BENNETT
CHIEF, SOIL CONSERVATION SERVICE

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WELLINGTON BRINK

Editor

Art Work by

W. HOWARD MARTIN

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GREEN PASTURES SOUGHT.—Several varieties of grass new to this area are being tried on irrigated pasture land in Cochise County, Ariz., in an effort to get green pasture during most of the year and to obtain the greatest possible forage with a minimum of water and labor, according to representatives of the Soil Conservation Service who are furnishing technical assistance, in addition to seed of uncommon varieties and "trial types."

Grass which will last through midsummer heat as well as during cooler weather is being sought, according to Walter L. Diehl, district conservationist. After further trials, it is planned to mix seeds of various species in order to have green pastures during most of the year.

Semipermanent pastures which can supply forage without further planting for several years are another objective. Such pastures would require no labor except that involved in irrigation, Diehl points out.

John Saylor, farming near Elfrida, is trying mammoth red clover, Hubam clover, rescue grass, and both meadow and tall fescue grasses. He also is continuing use of giant panic and Harding grass.

Others trying new varieties of seeds are Joe Peevey of Elfrida, and Robert Kline of Hereford. Kline has been experimenting

(Continued on p. 205)

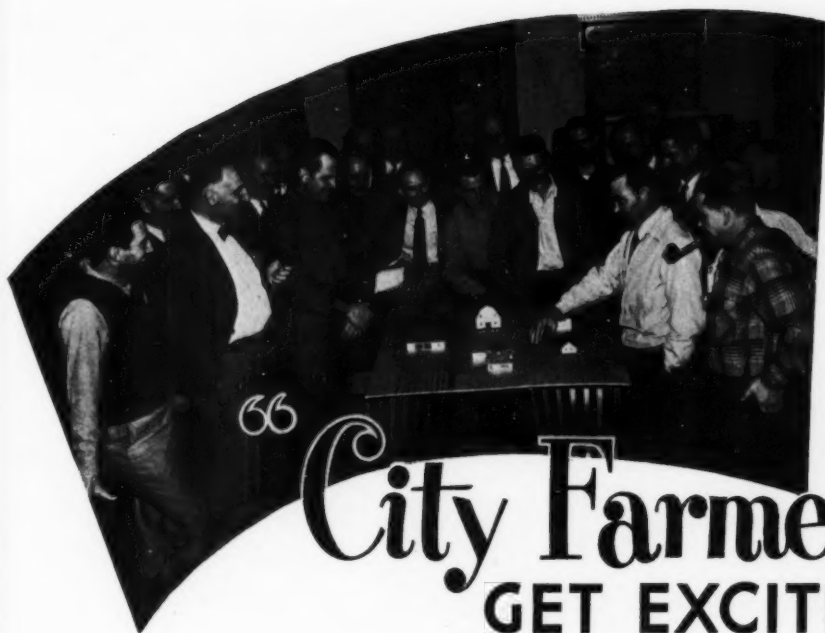
THE COVER.—Strip cropping on farm of Mrs. Virginia R. Kidd, Greenbrier County, W. Va. The 4-year rotation uses corn, wheat, and 2 years of meadow. The photo was made last year by Hermann Postlethwaite.



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NOTE.—Missouri.

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They came dressed in field clothes for the last meeting. President Van Dyke faces model farmstead, which is being discussed by an agricultural engineer of Missouri's Extension Service.

City Farmers GET EXCITED OVER *Maps*

By HOWARD C. JACKSON

THIRTY busy city executives and businessmen—members of the St. Louis Club—went to school five nights, starting on the evening of November 13, at the LaDue Community Hall in St. Louis.

The class was called to order and the "teachers" were presented by the club's president, J. R. Van Dyke. "What's all this about?" asked a curious outsider.

It's not an old story but a brand new venture into a greater appreciation of the land, our natural resources and agricultural activities. Here's how it all came about. In 1945 the St. Louis Chamber of Commerce renewed its interest in agricultural affairs and hired a full-time director for the Agricultural Bureau. Hugh Steavenson, for 10 years manager of the Elsberry, Mo., Soil Conservation Service Nursery, started things humming. The St. Louis Farmer's Club is a separate unit of the chamber made up of members who own farms. They are so-called city farmers, always quick to try a new idea and eager to learn.

President Van Dyke had attended a series of farm planning meetings in the soil conservation district of Callaway County, where his 1,010-acre

farm is located. He was anxious for many of his city-farmer friends to have a similar opportunity. Sounding out a few of his cronies, he conceived the idea of having a school in St. Louis for these city farmers at which time they would discuss their farms just as his farm was discussed at soil conservation district meetings out in the country.

Enthusiasm snow-balled and Secretary Steavenson says that "within 2 days after the first announcement went out to our Farmer's Club members we had the full enrollment for the school." Farms are owned by the members of the club over a wide area, ranging from northwest Tennessee and western Missouri to the local area within 100 miles of St. Louis in Illinois and Missouri. There naturally was a wide variation in soil, type, climate, crops, and problems of erosion and drainage.

President Van Dyke appealed for help to the Soil Conservation Service and to the College of Agriculture at the University of Missouri. The Soil Conservation Service agreed to make a conservation farm survey of as many of the farms as time would permit. Technicians of that agency used the aerial photographs furnished by the mem-

NOTE.—Mr. Jackson is assistant State conservationist for Missouri.

bers and walked over each farm, making borings with the soil auger, observing and mapping soil differences, and marking all these conditions on the photographs. This was a soil conservation survey. Each field of each farm was classified according to its land use capability class, using the regular procedure available to all soil conservation districts.

Harold E. Grogger, State soil scientist, was one of the teachers at the first meeting. After a detailed discussion of what soil really is and how it responds, Grogger flashed these maps on the city farmers, who prized them like a boy with a new toy. Considerable chiding took place as someone would point to a lot of orange land, for example, class VII, best used for the production of grass and trees, while another city farmer would boast jokingly about his big spot of green or yellow land which the map told him in a flash was made up of classes I and II, suitable for cropland if properly managed.

President Van Dyke, in commenting on the five meetings, averred that "It would be impossible to overemphasize the importance of the maps which made it possible for each individual farmer to bring his own particular problems right into the class, and the discussion of soils by Grogger and Tayloe in the initial meeting got us off to a fine start."

A veteran farm planner of the Service, William L. (Bill) Tayloe, was really the key to the instruction series. He conducted the Callaway District meeting which gave Van Dyke the germ of the idea. It was logical that he should be selected by the Soil Conservation Service to attend all five meetings. The University of Missouri, through its extension service, assigned Dorris Brown, farm planning specialist, as its representative.

Tayloe and Brown were the moderators chosen to pick up the loose ends and make all the answers as clear as possible. St. Louis County Agent Paul Bernard and Brown helped to arrange for outside speakers which included a soil specialist, a livestock specialist, and two agricultural engineers.

The meetings were purposely spaced close together so that interest and enthusiasm would be maintained at high pitch from one meeting to the next. The second meeting was held just 5 days after "school" opened. The third meeting was on November 25, the fourth on December 2, and the fifth and final meeting was on December 9. To

add a little spice to the last meeting the members all dressed in overalls and field clothes and followed the session with a social hour.

According to Bill Tayloe, they referred to their teachers at this last meeting as the "city slickers." On this occasion Tayloe summarized what had gone before. He pointed out how the information given the individual owner could be used in developing a farm plan. First he stressed the land-class map, reviewing what it was for, and how it could be used; second, the cropping systems and how the systems should be selected based on the map; third, the productivity, which must be "plus" and must furnish, if possible, pasture,



WHAT DISTRICT WILL BE NEXT—Supervisors of the Weakley County Soil Conservation District in Tennessee are using SOIL CONSERVATION Magazine as a tool for speeding conservation work in the district.

At a recent board meeting the supervisors voted unanimously to pay for 100 yearly subscriptions to the magazine, for distribution as follows:

Forty elementary schools, 6 high schools, 9 Negro schools.

Twenty-two instructors of GI agricultural classes.

Five district supervisors.

Eighteen other copies to be sent to the University of Tennessee Junior College, president of the county Farm Bureau, the county agent, the county judge, Boy Scout troops, the key banker, and the editors of Weakley County newspapers.

"I think this project will pay off in increased interest in conservation of our soil, particularly out where the knowledge is needed in our rural schools," said L. L. Olds, who has been chairman of the supervisors since the district was organized by farmers in 1940.

Olds has sent a letter to each person receiving the magazine telling him that it is a gift of the district, and why.

Other members of the board of supervisors are Waymon Gaylord, vice chairman and treasurer; G. F. Roberts, G. W. Gibbs, and Wayne Parham.



These business men have a direct personal stake in the land. They are members of the St. Louis Farmers Club listening to discussion of farm conservation planning. Each man has a farm of his own which he wants to have managed the modern conservation way.

roughage, and grain for the selected livestock; fourth, treatments calculated to produce quality hay and pasture; fifth, the supporting or so-called conservation practices, designed to support the cropping system, and selected and planned to fit the farm. He reviewed and emphasized the livestock factors. Tayloe declared that livestock should be selected to fit the land class and the kind of supporting practices that are practical, and that practices should be adopted which the owner or operator is willing to use. In concluding his remarks, Tayloe said, "Begin with your farm—the map brings it down to a size you can use. Plan a cropping system that fits the farm. Then use livestock to utilize the feed the farm can produce best." He suggested that his hearers constantly remind themselves: "This is my farm. Always remember it must produce after I am through."

Before the meetings had ended at least five of these business men—farmers whose farms were located within a soil conservation district—had inquired of the district supervisors concerning an application for the development of a complete conservation plan. Among those who had intended to start early were William H. Bixby, D.

Ross Hagan, Elmer E. Marks, Harry H. Crane, and John L. Patterson.

Mayor E. S. Funsten of LaDue, who operates a 365-acre farm in St. Louis County and also is a member of the farmer's club, welcomed the group to his community. Mayor Funsten declared that this was the first time such a school in conservation farm planning had ever been conducted. LaDue, he said, is proud to be in the list of "firsts" on conservation activities. "I hope this idea will spread to other city farmer's clubs."

The attendance was excellent notwithstanding heavy business and social commitments and frequent out-of-town engagements. Twenty-five of these busy men, out of the 30 who enrolled were regularly present.

Nearly all have an incurable love of the land and will drop important business activities to discuss farm topics.

The St. Louis Farmer's Club is one of several such metropolitan clubs in the Nation. According to the 1947 records, these clubs have 258 members owning 300,000 acres of land with an estimated value of \$12,000,000. They hold regular meetings to which are attracted some of the outstanding agricultural leaders of America.

FIRE FIGHTING SAVES THE RANGE



Back-pack pump in action.

By ROSS D. DAVIES

ONE OF THE MOST dramatic fire stories in recent years in the Northern Great Plains unfolded itself in central South Dakota during the past summer.

It saw flames sweep uncontrolled over one farm-ranch community, while the people fought bitterly to stem their progress.

And it saw another ranch community almost "next door," lacking communication facilities but organized and equipped, stop fire in its tracks time after time almost as soon as it started.

One of these communities came out of the summer with its range burned, many of its haystacks and livestock, fences, and even some of its farm buildings and homes destroyed. The other wound up the season with its resources in grass, feed stocks, and livestock in unusually good shape.

The fire that swept through a 500-square-mile area in Hyde, Faulk, Sully, and Potter Counties in September was big news, a major tragedy. It actually burned over an area of about 160,000 acres. The battle by farmers and ranchers to save their livestock, their homes, was heroic. It was reminiscent of the stirring tales of yesteryear when rushing walls of fire drove down on man and beast.

NOTE.—The author is state conservationist, Soil Conservation Service, Huron, S. Dak.

But the quiet efficiency of the other community, where 20 fires started during the season, attracted little attention outside of its boundaries. Yet the struggle against fire was just as tense and exciting to those concerned. It was just that "nothing happened."

This community is the Land Utilization project south of Fort Pierre, an area just west of the Missouri River about 18 by 20 miles, containing some 230,000 acres. Most of it is grassland, about half of it having been bought by the Federal Government during the submarginal land purchase program. Highway 83 crosses it.

In this area, the Soil Conservation Service, which administers the land, has cooperated with local ranchers to help them develop stable, family-size livestock units. The Service has leased the lands to the local grazing districts for a long term of years, and supplies technical aid in managing the lands. Directors of the grazing district grant grazing privileges to members in accordance with the terms of the lease agreement.



Typical fire-tool cache. You'll usually find them at headquarters of fire wardens appointed by grazing association directors.

And since the Soil Conservation Service has a big stake in the area, Martin Reinholt, the agency's technician there, helped the ranchers organize and equip to control fire. The Service supplied a truck equipped with a water tank, back-pack pumps and long-handled swatters, to which the local stockmen added other fire-fighting equipment. The truck is kept at a central location, ready for use. The Service also supplies some

back-pack pumps, swatters and shovels for four fire-tool caches that are located at strategic places in the project area.

The grazing district built its part of the 120 miles of plowed fire guards and maintains all of them, appointed four fire wardens at whose headquarters the tool caches are kept, and this year bought enough more back-pack pumps so that each rancher in the area would have one. All ranchers, of course, are on call for fire, and tractors and plows are kept ready for use. Highway patrolmen working in the area did their share in keeping a lookout, and helping to fight fires when they broke out.

This organization extends even to the people in the towns in or near the area—Fort Pierre, Draper, Vivian, and Presho. There, the volunteer fire departments are kept ready for call, although the complete lack of telephones makes it necessary for someone to drive to town when their help is needed.

The last year gave the fire-control set-up a se-

vere test. Controlled grazing and good weather the last several years has resulted in an unusually heavy stand of grass. There was lots of fuel for fire. And the season was hazardous, with a long dry season, many electrical storms, and high, scorching winds. The stage was all set for trouble—plenty of it.

Lightning set 19 fires and man caused one. Any of them could easily have gone racing over the hills, devouring grass, animals, fences, homes. But instead, a total of slightly less than 2 square miles was burned over. That is less than six-tenths of 1 percent of the area. The largest fire covered 200 acres; the average for all was 66 acres.

Keen, almost jittery, watchfulness by the ranchers and the way they work together through organization have been as big factors in this fire-control record as equipment. It is this that had made "hitting a fire fast" one of their characteristics, although without effective equipment they would not be able to do much.

(Continued on page 204)



One of the fire trucks supplied to land utilization projects by Soil Conservation Service in its cooperation with local ranchers for protection of grazing resources from fire.



Blue lupine (*Lupinus angustifolius* L.) is of growing importance to soil conservation farmers. At this stage of ripeness, the seeds are almost ready for harvesting. They ripen unevenly.



Harvesting by combine on terraced land. Terraces in background are planted to watermelons. These pictures were all made in Georgia. Green seed call for careful cleaning and storage.

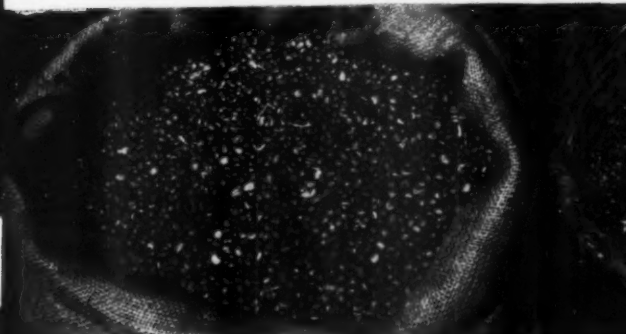


Frequent examination of seed coming from combine is necessary in order to make any adjustments of the machine that are indicated to operate at top efficiency.

HARVESTING

Blue Lupine

Best results are obtained when blue lupine is combined slightly in the morning, late in the evening and through the night. Shattering. They use the middle of the day for work.



Blue lupine seed directly off combine showing green seeds, green pods, sticks, cracked seed, and other foreign matter that must be removed before putting on market.

Dirty
eign
germ

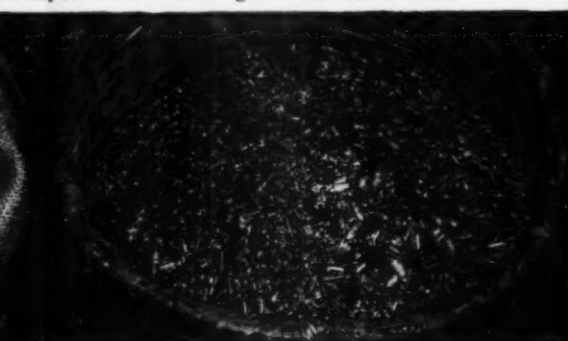


In combining blue lupine seed, the speed of threshing cylinder is adjusted for beans, peanuts, and peas. All field harvesters have adjustment. Too high cylinder speed will

Blue Lupine SEED

PHOTO STORY BY
HERMANN POSTLETHWAITE

is combined slightly damp. Many farmers do it early
ough the night. In this way they reduce the amount of
he day for work on small grains and other tasks.



Dirt separated from seed by cleaning. Foreign matter interferes with drilling. Poor germination will result unless moisture can be held to about 12 percent.



reshing cylinder should be reduced to that for edible
ters have adjustable cylinder, fan speed, and shaker
nder speed will crack the seeds.



After the blue lupine seed has gone through the cleaning machine it is weighed into sacks of 100 pounds each; the sacks are sewed up and tagged with the owner's name, ready for storage.



Test sprouting by farmer to show the percentage of germination. Like all beans, blue lupine must not be planted too deep. Otherwise the sprouts cannot break the surface of the soil.



Taking samples for moisture determination. If heating develops, more air must be provided. It occasionally may be advisable to spread seed out on floor before sacking.



Redman "look" in 1947. Contour strips of wheat and meadow to left of highway; strips of corn and oats to right of barn. To north of barn are the two farm ponds.

Top Award to Ohio Farmer



Dale and Dwight with polled shorthorn heifer which won first prize over all beef breeds competing in 4-H Club project.

WILLIAM REDMAN, of Zanesville, Ohio, is the 1947 champ in the system-wide soil-conservation contest of the Baltimore & Ohio Railroad. For being top man among competing farmers, he received a 40-ton carload of bagged kiln-dried agricultural limestone and a certificate of achievement signed by Hugh Bennett, chief of the Soil Conservation Service; R. B. White, railroad president; and H. C. Ramsower, director of the Ohio Extension Service.

State winners were: Illinois—Rolie Eakin, Vandalia; Quinton Taylor, Cerro Gordo. Indiana—Carl Harvey, Kendallville; Ernest B. Miller, Bicknell; Doris Salsman, Greencastle. Ohio—William Redman, Zanesville; Paul Herd, East Liberty; Clarence Schissler, Carrollton. West Virginia—Paul Nutter, Auburn; L. H. Ripley, Alma; J. and I. D. Van Metre, Martinsburg. Maryland—Perry Steiding, Accident. Pennsylvania—Hugh H. Brown, Indiana. New York—Arthur Roeske, Independence.

Redman's 362-acre farm features the raising of shorthorn cattle for breeding purposes. Between October 1946 and October 1947 a wide array of conservation practices were put on the land. High lights of progress included 66 acres in conservation rotations; 66 acres in contour strip cropping; 1,460 feet of sod waterways, 250 tons of lime on cropland, 100 tons of lime on permanent pastures, 10 tons of fertilizer on permanent pastures, 114 acres mowing of permanent pastures, 80 acres rotation of grazing permanent pastures, 1 new farm

pond and
of wood
acres of
planting
1,320 li
of tras
fencing

Awards
Service;



Redman's first pond was constructed in 1935. A second pond was provided in the spring of 1947.

pond and 2 feet in depth added to old pond, 45 acres of woods protected from grazing and from fire, 3 acres of woodland plantings, 2 acres of wildlife plantings, 2 acres of field-border management, 1,320 lineal feet of field diversion ditches, 6 acres of trash-mulch seeding. Eight hundred rods of fencing on contour, 55 acres of clearing locusts

and brush for pasture and cropland, 5 acres of old orchard land cleared for cropland, 1,570 cubic yards of earth moved to fill in gullies.

This is just part of the story of soil-conservation progress on one farm in one year. H. J. Muse, work unit conservationist of the Soil Conservation Service, supplied technical advice. The Redman



Awards committee: Glenn E. Riddell, representing cooperative relations, Soil Conservation Service and Extension Service; Hugh Bennett, chief of the Soil Conservation Service; O. K. Quivey, manager of agricultural development, Baltimore and Ohio Railroad.



This family is a winner: back row—W. O. Redman, Mrs. W. O. Redman, Mrs. William Redman, William Redman; front row—Dwight, Rosan, Dale.

saga was told enthusiastically—and officially—by the board of supervisors of the Muskingum County Soil Conservation District, which offered this farmer as its candidate for top honors.

Why should a railroad be interested in encouraging soil conservation along its lines? O. K. Quivey, Baltimore & Ohio's manager of agricultural development, puts the answer neatly: "Railroad carloadings do not come from areas of abandoned farms, but rather from areas of productive farms such as that owned and operated by Mr. Redman and other farmers in the contest."

REPORT ON ROTATIONS.—Crop rotations are paying off to valley farmers in the Roswell, N. Mex., area, according to C. E. Olson, representative of the Soil Conservation Service in this area.

Olson cites the case of O. F. Crawford, who bought a 40-acre farm in February 1947 and now is cooperating with the Roswell Soil Conservation District. One 10-acre field had been in alfalfa for 2 years, while the other 30-acre field had been in row crops for about 10 years. Both fields were planted to cotton in 1947. The 10-acre field formerly in alfalfa produced approximately 2½ bales of cotton to the acre, while the other field produced a scant three-fourths bale to the acre, Olson says.

PAID WITH A SMILE.—"I have never seen anyone as glad to pay a bill as the farmers cooperating with the West Otter Tail Soil Conservation District when they come to my office to pay for the loan of district equipment used in drainage work in connection with their conservation plans. That is a real tribute to the kind of work being done," says Knute Hanson, bookkeeper for the West Otter Tail Soil Conservation District, Fergus Falls, Minn.

FIRE FIGHTING SAVES RANGE

(Continued from page 199)

From force of habit, these ranchers are ever on the lookout for smoke during the summer. None of them slept through an electrical storm at night. Instead, they were up, watching the sky for the telltale glare of fire.

Once flames or smoke are sighted, action starts. One man heads for the fire with the back-pack pump at the ranch, another goes to warn neighbors and get the truck with the water tank, and the rest of the ranch crew scurries to the nearest tool cache. Men are fighting the fire in a short time. And if more are needed, they can be brought from the towns.

Thus, Confederate Joe Jackson's slogan, "git there fustest with the mostest," pays out on these ranches. It pays well in resources saved—grass, hay, livestock, homes protected from fire.

The ranchers in the Land Utilization project don't have to look far to see how well it pays. A sign along the highway near Highmore says: "This \$2,000,000 fire was caused by a cigarette. Be careful."



Fire guards help check run of flames across prairie. They're useful also when it's necessary to start a back-fire to check flames driven by strong winds.

SOIL CONSERVATION PAYS ITS WAY.—"The soil conservation district program in Martin County has not cost the United States Government one penny," declared C. U. Rogers of Williamstown, N. C., a supervisor of the Coastal Plain Soil Conservation District. "From one field I tile drained, I have already got more than \$1,500 increase in cash income. There are many other farmers who have received similar results. The additional Federal income taxes which we pay on the increased income from these conservation practices will pay several times the amount the Federal Government pays in salaries to the Soil Conservation Service employees in Martin County. And I am sure we would have put in very little tile, or built very few terraces without the technical aid received from the Soil Conservation Service."

GREEN PASTURES SOUGHT

(Continued from page 194)

for several years with varieties of pasture grass.

Eugene C. Hill, Jr., dairyman in the Double Adobe community, has expressed interest in the possibility that some of the imported species may compete with other forage crops for dairy cows.

Other grasses that have been tried in recent years with varying degrees of success include orchard grass, perennial rye, dallis grass, alsike clover, ladino clover, and sweetclover.

Revegetation of range land in this area as an erosion-control project also is under way. According to Diehl, this will be beneficial both for erosion control and for conservation of water for range forage in nonirrigated areas. The principal species adaptable in this area has been found to be Lehmann lovegrass. Three other species of lovegrass, imported from Africa and improved, also are being tried. Giant panic grass is being used in swales. Bristle grass, Indian grass and California cottontop are being tried. A large number of farmers and ranchers in this area are taking part in the revegetation program.

The Soil Conservation Service nursery at Tucson is furnishing most of the seed for these trials, and is assisting in carrying out the experiments in cooperation with the soil conservation districts in Cochise County.

ADVICE TO BANK ON.—Last summer a group of Federal Land Bank officials visited the farm of S. B. Huff, supervisor of the Greenville County Soil Conservation District in South Carolina. Huff reported increases in yields of cotton from 300 to 400 pounds per acre, corn from 15 to 25 bushels, oats from 20 to 40 bushels, wheat from 15 to 25 bushels. These increases, he explained, were mainly due to good terraces and the rotation of small grain with lespedeza in contour strips, as a part of the plan developed with assistance from Soil Conservation Service technicians. From the 40 acres of annual lespedeza, he said, he was getting a ton of hay and 400 pounds of seed to the acre. He concluded with this statement, "Gentlemen, your borrowers are going to have to practice soil conservation or you are going to have to go out of business."

ADVICE, PLUS.—"I get lots of good advice and suggestions from other sources, but Soil Conservation Service employees are the only ones who actually show me how to apply and carry out conservation practices on the land," commented Lewis Hill, of Richmond, Ky., a cooperator in the Warren County Soil Conservation District.



JACKRABBITS AND JUNIPER

The fabled jackrabbit, a familiar sight on many a Texas prairie, done been a-totin' cedar tree seed out on rangeland. And the trees which have resulted have been using up space, moisture and nutrients, thereby lowering the ability of the grassland to put pounds on livestock.

Simon E. Wolff, of the Soil Conservation Service regional nursery division at Fort Worth, recently has completed a 3-year investigation of the spread of juniper trees—more often called cedar. Wolff found that 18,000,000 Texas and Oklahoma acres have been infested by cedars, mostly redberry and Ashe, well known as the mountain cedar. The redberry is *Juniperus pinchoti*; the Ashe is *Juniperus ashei*.

His investigation confirmed the widely held belief that birds spread a great deal of cedar seed in their droppings. In addition, Wolff discovered that the jackrabbits are just about as potent as the birds in carrying seed. Particularly is that true in open grassland. Birds usually light in trees or on fences and it is at such locations that their droppings result in the seedlings, according to Wolff. Jackrabbits roam the grassland where birds don't usually stop, and it is there they drop the seed in the pellets. The rabbits sometimes carry seed as far as a mile from the nearest tree.

Wolff states that jackrabbits don't crack the cedar seed as they eat. The seed passes through their digestive tracts almost unscathed. He found that during the winter months almost half the food of jackrabbits living in redberry juniper country consists of the fruit of that tree. Cottontail rabbits, he learned, eat and spread quite a bit of Ashe juniper seed.

Rabbits always have carried cedar seed to grassland, Wolff points out, but it is only since heavy use of range has lowered stamina and abundance of the climax grasses that the cedars have been able to sprout and compete successfully for available plant growth elements. The reduced cover has contributed to a vast increase in the number of rabbits and the increased number of rabbits has speeded the spread of cedar. Wolff concludes that while the jackrabbits and cottontails are carriers, the real reason for spread of juniper is the continuous overuse of the range since it was fenced. Furthermore, asserts Wolff, careful balancing of forage growth use will keep cedar from invading most good grassland.

REVIEWS

HEAVEN'S TABLELAND. By Vance Johnson. The Farrar, Straus & Co., 1947. 288 pages. Price \$3.

This book should be read by all prospective land purchasers, newcomers, and would-be farmers in the southern Great Plains. It should also be interesting to the businessmen, farmers, ranchers, and others who now live there—especially to those who expect to continue to live there. It will be interesting to those who lived in western Kansas, eastern Colorado, eastern New Mexico, or western Texas or Oklahoma at any time during the past 70 years. It should be required reading for all who are interested in soil conservation or the continued productivity of the land and the prosperity of the Plains.

"Heaven's Tableland" is mainly about the agricultural history of the southern Great Plains with special reference as to what might have been, what is, and what may be in the future. The dominating influence of the weather on all past and future agriculture of the area is emphasized; but it is pointed out that man's use of the land may offset most of the weather hazards.

The book is well organized, readable, and probably the most interesting book ever written about the "dust bowl." It is not limited to a discussion of the dust bowl of the thirties; but deals with all phases of Plains settlement and development, including droughts, dust storms, and blizzards. It even includes information about the prehistoric agriculture of the Indians of the region. You will not lay this book down, once started.

Vance Johnson, who was a reporter and the editor of the *Amarillo News* during all the dust bowl years of the thirties, has done some comprehensive research on the agricultural history of the Plains. He starts with the Panhandle Man, who farmed portions of the Texas Panhandle prior to the fourteenth century. He describes briefly the irrigation systems of prehistoric Indians in southwestern Kansas. He does not attempt to prove that the early agriculture of these Indians was wiped out by long and protracted droughts, but does point out the facts that leave that inference.

He traces the history of settlement and agriculture of the region rather fully from Civil War days to 1946. Emphasis is placed on the spectacular weather variations that have done so much to shape the patterns of settlement and agriculture. The blizzard of 1886 that wiped out much of the cattle industry, the drought of the early nineties that drove so many of the homesteaders back east, and the drought of 1910 to 1913 that created the dust bowl in Thomas County, Kans., are given special treatment. The land booms of 1809 to 1910 and 1915 to 1929 are discussed more or less in detail. Campbell's dust-mulch theory of moisture conservation and Post's rainmaking experiments are given rather extensive treatment; as are Payne's experiments and findings at the Dry Land Experiment Station at Cheyenne Wells, Colo., But Vance reserves his main discussion for the dust bowl

of the thirties. And the last chapter of the book, entitled "Here We Go Again," is devoted to the land boom that got under way with World War II and is still continuing.

This discussion of the dust bowl is as interesting as most fiction and just about as readable. It not only tells about the dust and the hardships of the people who had to endure it, but also about the various measures that were used to control soil blowing. The Government efforts toward wind erosion control are discussed in some detail, as are the efforts of various individual farmers and ranchers. Special credit is given to the Soil Conservation Service and other Government agencies and to some of the individuals working for the various agencies. But the role that the weather played in curing the dust bowl is emphasized.

This book will probably not be so popular in the old dust bowl region as it will be in other sections of the country, so long as favorable weather continues on the Plains. If we should have another drought and dust bowl in this region, however, this book will probably be one of the publications most in demand by those who live or work there.

Vance Johnson is a plainsman himself and apparently has a real love for the Plains and those who live there. This is indicated many times throughout the book and especially in the selection of the title, which comes from an old hymn that was fairly common among early settlers of the area.

Lord, lift me up and let me stand
By faith on Heaven's tableland;
A higher plane than I have found,
Lord, plant my feet on higher ground.

But Vance seems to have little patience with or regard for those who attempt to wantonly exploit the land for immediate personal gain; especially for speculators and suitcase farmers who are only fair weather residents and expect to run for cover, back to their permanent homes in Dallas, Oklahoma City, or Kansas City as soon as the dust begins to blow.—Tom Dale.

SCHOOL GETS HIGHER MARK.—R. M. Sanford, head farmer for the Walter E. Fernald School Farm at Walham, Mass., reports that as a result of practicing soil and moisture conservation he has been able to increase truck crop yields approximately 27 percent. Mr. Sanford states that he is now able to produce as many vegetables on 35 acres, as he was able to produce on 42 acres before the conservation plan was adopted. The 9 acres that were formerly used for truck crops are now used for the production of hay. This program was started in 1940 as a demonstration farm under the supervision of Soil Conservation Service—Extension Service. Strip cropping, contour tillage, diversion ditches, and cover crops are the principal conservation practices.

SUBSCRIPTIONS CLIMB.—The March issue of *Soil Conservation Magazine* showed a net increase of 430 paid subscriptions over the February issue. Every new subscription means one more informed person, makes it just that much easier to get soil conservation out on the land where it belongs.

DISTRICT ACHIEVEMENTS IN THE SOUTHWEST



BACKS FAITH WITH FUNDS.—Farmers cooperating with the Santa Cruz Soil Conservation District spent more than \$100,000 on soil and water-conservation work during 1947, according to W. G. Williams, work unit conservationist of the Soil Conservation Service stationed at Nogales, Ariz.

The largest and most beneficial practice was land leveling, Williams said. A total of 792 acres, representing one-tenth of the total area of Santa Cruz County, was leveled at an approximate cost of \$70,000 to the farmers. Approximately 60 percent of this was new land which had to be cleared of dense brush prior to leveling, which cost an additional estimated \$17,000.

About 100,000 cubic yards of dirt was moved in the construction of diversion dikes and flood channels at an approximate cost of \$15,000. Additional projects boosted the total 1947 expenditures on soil and water conservation practices to more than \$100,000.

WHOLE COMMUNITY TO PROFIT.—Productivity of farms in the East Salt Lake Soil Conservation District was increased from 25 to 50 percent during 1947 as a result of the widespread use of soil and water conservation practices, according to A. R. Bowthorpe, chairman of the board of supervisors.

Land leveling in the district, which includes lands in Salt Lake County east of the Jordan River between Draper and Salt Lake City, increased 25 percent over 1946, and hundreds of acres of nonproductive lands were reconditioned by modern irrigation and drainage methods, Bowthorpe said.

The approximate cost of leveling lands during 1947 was 15 cents a yard for dirt moved.

A fund of nearly \$4,000 was accumulated during the year, and the district supervisors now are considering using this to buy and recondition lands that now are nonproductive because of overfarming or too much water.

The supervisors feel that bringing such lands into profitable production not only will put them back on county tax rolls, but also will improve the economic status of the area considerably.

QUICK RETURNS FROM LEVELING.—The leveling of 31 acres, where irrigation was difficult, has resulted in increased crop yields which paid the cost of the work and showed a \$700 profit for the owner, Charles Auckland of Olney Springs, Colo., in a single year.

Auckland, who is cooperating with the West Otero Soil Conservation District, applied to the district supervisors for assistance in 1946. Distribution of water on two adjacent fields on Auckland's farm was poor. Some portions were not getting enough water, while ponds were forming lower down.

Technicians drew up a complete soil and water conservation plan which called for combining the fields, leveling the land, removing the old dikes, and constructing a new irrigation system.

Leveling of the 31 acres in the two fields cost \$1,800 because of the long hauls that had to be made with the carry-all. However, Auckland's high expense was more than offset when the 1947 crops were harvested. The land is farmed by a tenant, and Auckland's share from the 1947 crops totaled \$2,500, or \$700 more than the entire cost of the improvements.

In addition, Auckland reports that 30 percent less water was needed for irrigating in 1947, and much better crops were produced than formerly. The labor cost of irrigating was reduced 50 percent after leveling, and Auckland is convinced that this more efficient use of water will reduce the hazard of a high water table which is prevalent in Crowley County.

COMPARISON.—The value of proper irrigation practices has been clearly demonstrated on the farm of Leo and Harry White, who operate a dairy and do irrigation farming near Tucumcari, N. Mex.

In March 1947 the White brothers called upon the Canadian River Soil Conservation District for assistance in leveling a 19-acre field, and Soil Conservation Service engineers furnished the necessary technical assistance. The cost of leveling and bordering was approximately \$30 per acre, the field presenting one of the most difficult lay-outs made here to date, with bends in parts of the borders and irrigation runs in several directions. However, the borders were kept parallel and farming operations haven't been so difficult, according to the brothers. Alfalfa was planted on the 19 acres this fall and is up to a good stand.

At the same time the brothers planted 5 acres of irrigated pasture on sloping land with seed costing \$10 per acre. They failed to get a stand because the tract could not be properly watered. The brothers now have called upon the district for assistance in leveling this tract.

FRIEND TO FRIEND.—One good turn deserves another. Have you mentioned to a friend on farm, in bank or school, that small nugget of useful information you picked up from Soil Conservation Magazine?

To extend the usefulness of such publications, attractive bulletin boards are being used in many places as a service to the passerby. They're found in offices of district conservationists, at headquarters of soil conserva-

tion district supervisors, in the rooms of county agents, in the corridors of agricultural colleges and courthouses. Such bulletin boards, kept current and carefully managed, can be of great help to a community in acquainting the people with what is happening out on the land.

The picture above is of the bulletin board outside the office of Hugh Bennett, Chief of the Soil Conservation Service, in Washington. The clippings never stay on this board very long; there are too many others waiting for their chance to be put on brief display.

MAP-MAKING AWARD TO KELSH.—Harry T. Kelsh, in charge of field mapping for the Soil Conservation Service received a top award for his contribution to aerial map-making recently.

The award was presented by the American Society of Photogrammetry in Washington. Approximately 900 map experts attended the society's convention.

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